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UTILITY MODEL

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54 TITLE OF THE INVENTION

FIBERGLASS AGGREGATE BOARD

71 APPLICANT (S)

CRISTALERÍA ESPAÑOLA, S.A.

APPLICANT'S ADDRESS
28046 MADRID – Paseo de la Castellana 77

72 INVENTED BY
MR. VICENTE PALACIOS SAGREDO

73 TITLE HOLDER(S)
CRISTALERÍA ESPAÑOLA, S.A.

74 REPRESENTATIVE
[stamp:] LUIS PLAZA 481 (2)

UNE A-4 Form 3204 USE AS FIRST PAGE OF REPORT

This Utility Model refers to an fiberglass aggregate board obtained in a specific shape, as well as the manufacturing system with this specific shape.

The manufacturing of fiberglass boards bound with synthetic resins, used in multiple applications, such as for example for ventilation ducts, refrigeration, etc., is known.

The boards manufactured until now are rectangular in shape, with their four sides cut square. The boards thus obtained, when it is necessary at the foot of the work to manufacture a duct, a notch or beveling is made on the two sides, so as to insert one duct into the other. The way to do this beveling is simply with a knife, thus reducing the thickness of the board at the edge, specifically from 25 to 12.5 mm. With this, the mechanical resistances of the edges of the board are much reduced, because at the edge it is reduced to a fiber panel of 70 kg / m^3, with the aforementioned thickness of 12.5 mm.

Also keeping in mind that in the transversal distribution the grammage of the panel has a tolerance of 10%, we can find up to 63 kg / m^3 in density, thus aggravating the problem of the lower resistance of the edges.

Given that the join point is the weakest part of the duct, when it is loaded, for example with air conditioning, there is a considerable risk that the duct will break in that area. To avoid this, the ducts are reinforced with bands or self-adhesive tape, plaster, etc.

As is easy to understand, the subsequent use of reinforcements of any nature, besides implying an additional cost of materials, is also an additional labor and work time expense.

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The proposed system avoids a large amount of wasted material, the old system wasted, on each 3 meter panel, 30 mm of width by 6 meters of length.

The board obtained according to the Model is based on obtaining on the production line boards with the beveling already rectified so that no additional work is necessary at the time the ducts are mounted.

Furthermore, because the beveling is obtained by molding and not by cutting, the density is not reduced, in this case having a density of 140 kg / m^3 (twice that of the rest of the panel).

This increase in density and noting having to break the fibers by cutting with a knife, causes a very significant increase in the mechanical resistance of the edges and therefore it increases the mechanical resistance of the joined ducts.

To obtain boards with these features, all the polymerization kiln conveyors have had to be transformed so as to make it possible to insert lateral blocks that allow the beveling to be performed.

As is known in the union, glass wool, before polymerizing, is an amorphous product very similar to a cotton blanket. For the glass wool to be converted into a panel with certain mechanical resistances it is necessary to impregnate the wool with some thermohardening resins and to polymerize those resins, thus giving consistency to the product.

If when polymerized the fiber board is shaped in some manner, the polymerization and the specific shape desired are obtained at the same time.

As is also known, the polymerization kiln

consists of two parallel curtains that the fiber wool impregnated with resin passes through. In turn the curtains are perforated so that hot air passes through the perforations and the wool, which polymerizes the product and are movable so as to be able to give the product the desired thickness and to move the wool forward continuously.

The curtains are in turn formed by pallets of a specific width so that they can be articulated and it is precisely on those pallets where the improvement has been made to be able to obtain the beveled board.

A drawing sheet is attached, on which:

Figure 1 is a view from the perspective of the curtain, with the shaping pieces included.

Figure 2 is a lateral view of the upper shaping piece, located on the curtain.

And Figure 3 is a lateral view of the lower shaping piece.

As shown in Figure 2, the upper shaping piece – 1 – has on one side an L-shaped notch – 2 – through which, at the time the fiber blanket passes below it, the beveling will be produced on it in the reverse direction.

In the representation in Figure 3, the shaping piece – 3 – has a rectangular shape. Graduating the placement of it on the curtain, the cant of the beveling will be produced gradually on the blanket in the reverse direction of the opposite edge, as it passes over it.

The final result shows a board with overhanging wings on the upper and lower parts, so that at the time a duct is mounted, both bevels can be mounted perfectly, with the

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aforementioned advantages.

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CLAIMS

1. A fiberglass aggregate board characterized by the pallets on the curtains contained in the polymerization kiln made so that the upper pallet has on one of its edges an L-shaped notch, whereas the lower pallet has straight angle edges, so that the disposition of both over the curtain forms notches in the edges of the fiberglass boards and as a result the inverse formation of those notches allows those edges to be mounted in the construction of a duct.

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[3 figures]

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